

**ABSTRACT OF THE DISCLOSURE**

**AUTONOMIC METHOD AND APPARATUS FOR LOCAL PROGRAM CODE  
REORGANIZATION USING BRANCH COUNT PER INSTRUCTION  
HARDWARE**

A method, apparatus, and computer instructions for local program reorganization using branch count per instruction hardware. In a preferred embodiment, a hardware counter is used in the present invention to count the number of times a branch is taken when branch instructions are executed. Branch count statistics generated from the hardware counters are available to a program in order to analyze whether code reorganization is necessary. If reorganization is necessary, the program autonomically reorganizes instructions locally at run time to allow more instructions to be executed prior to taking a branch, so that the number of branches taken is minimized without modifying underlying program code.